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Beat O. Blattmann

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DANISCO US INC.

ATTENTION: LEGAL DEPARTMENT

925 PAGE MILL ROAD

PALO ALTO, CA 94304

EXAMINER

PROUTY, REBECCA E

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Claims 13-15 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Short et al. (US Patent 6,720,014) in view of Berka et al. (US Patent 6,221,644) and van der Laan et al. The rejection is withdrawn for claim 23 as the protein produced from the nucleic acid as suggested would not be at least 98% identical to SEQ ID NO:2.

Applicants argue that the examiner has failed to consider that Short discloses producing variants of the phytase by a wide variety of methods in addition to error-prone mutagenesis as recited in the instant claims and that the examiner's indication that this is irrelevant is incorrect as a matter of law as all references must be considered in their entirety including portions that would lead away from the claimed invention. However, this is not persuasive because merely teaching other alternative ways of accomplishing a particular goal is not a teaching away from the particular alternative claimed. A teaching away is some teaching which suggests that the particular claimed alternative would not be suitable and/or would not work, not simply that there are other possible ways to achieve the same goal. Short does NOT include any disclosure that suggests that error prone mutagenesis would not be suitable for the instant situation and thus does NOT include any teaching away from the suggested combination.

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Applicants argue that the ordinary skilled artisan would not have deliberately subjected the signal sequence to any mutational process, because such mutation is likely to eliminate the signal sequence activity and thus would contravene the advantage of using a signal sequence. However, this is not persuasive because a skilled artisan would understand that mutagenesis could be used to improve the function of the signal sequence just as it is being used to improve the function of the phytase. Mutants which eliminate the function of the signal sequence (as well as mutants which eliminate the enzymatic activity of the phytase portion) could easily be excluded as they would not produce phytase activity in the medium.

Applicants argue that the Office fails to consider the lack of guidance in the art that would have led the ordinarily skilled artisan to modify the sequence of a naturally occurring mature phytase to replace its endogenous signal sequence with another signal sequence, and then subject the resulting hybrid nucleic acid to error-prone amplification process, transforming a host cell with a product of the error-prone amplification and culturing the transformed cell. However, this is not persuasive as the Office did not fail to consider whether a reason exists to make the proposed modifications to the methods of Short et al. but instead explained that Berka et al. teaches that a

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effective signal peptide for the expression and secretion of a microbial phytase in bacteria is the signal peptide of a *Bacillus* protease and van der Laan et al. teaches a specific signal peptide of a *Bacillus* protease. As such the rejection does in fact provide reasons to make the modification suggested.

Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca E. Prouty whose telephone number is 571-272-0937. The examiner can normally be reached on Tuesday-Friday from 8 AM to 5 PM. The examiner can also be reached on alternate Mondays

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Mondesi, can be reached at (571) 272-0956. The fax phone number for this Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Rebecca Prouty/
Primary Examiner
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